WE CLAIM

1.   A method of watermarking and transferring watermarked material in a system comprising a transaction server, first and second clients, first apparatus for applying a perceptible watermark to the material and second apparatus for removing the

5   watermark; the method comprising the steps of:

transferring from the transaction server to the first apparatus (i) data for creating a watermark, the creating data including (a) data defining an invertible algorithm and (b) data for creating at least one security key associated with the algorithm and (ii) data for creating a material identifier;

10   using the said first apparatus to apply a material identifier to the material and applying a watermark to the material, using the said creating data;

transferring from the first client to the transaction server the said material identifier and data for inverting the algorithm including the said at least one key;

transferring the watermarked material to the second apparatus;

15   deriving the said material identifier from the material;

transferring the identifier from the second client to the transaction server;

subject to predetermined conditions being satisfied, transferring from the transaction server to the second apparatus watermark removal data associated with the said material identifier, the removal data including at least one key and data defining

20   an algorithm for removing the watermark in conjunction with the key; and

using the second apparatus to remove the watermark using the said removal data.

2.   A method according to claim 1, wherein the first apparatus compresses the

25   material and applies the watermark as part of the compression process.

3.   A method according to claim 1, wherein the said data defining the invertible algorithm comprises algorithm configuration data.

30   4.   A method according to claim 1, wherein the said data defining the invertible algorithm comprises the algorithm.

5.   A method according to claim 1, wherein data for creating the material identifier is stored in a data carrier for transfer to the first apparatus.

6.   A method according to claim 1, wherein the said data for creating a watermark is stored in a data carrier for transfer to the first apparatus.

7.   A method according to claim 6, wherein a material identifier and at least one key are generated during the application of the watermark to the material, and comprising the step of storing the generated identifier and key on a data carrier for transfer to the first client for transfer to the transaction server.

8.   A method according to claim 1, comprising the step of storing in the transaction server metadata relating the said watermarked material, the metadata being referenced by the said identifier.

9.   A method according to claim 1, wherein the said removal data is stored in a data carrier for transfer to the second apparatus.

10.   A method according to claim 1, comprising storing on the transaction server conditions of sale of unwatermarked material.

11.   A method according to claim 10, comprising the step of transferring the said conditions of sale from the first client to the transaction server.

12.   A method according to claim 10, wherein the transaction server transfers the said removal data subject to the condition that a buyer has fulfilled the conditions of sale.

13.   A method according to claim 1, comprising the step of storing the watermarked material in a recording medium and transferring the watermarked material to the second apparatus on the recording medium.

14.   A data carrier in which is stored (i) data for creating a watermark, the creating data including (a) data defining an invertible algorithm and (b) data for creating at least one security key associated with the algorithm and (ii) data for creating a material identifier.

15.   A data carrier according to claim 14, wherein the carrier is a smart card comprises a processor and memory and the processor is programmed to implement the said algorithm.

16.   A data carrier according to claim 14, wherein the carrier is a smart card comprises memory storing algorithm configuration data defining the invertible algorithm.

17.   A data carrier in which is stored watermark removal data including at least one key and data defining an algorithm for removing a watermark in conjunction with the key.

18.   A data carrier according to claim 17, wherein the carrier is a smart card comprises a processor and memory and the processor is programmed to implement the said algorithm.

19.   A data carrier according to claim 17, wherein the carrier is a smart card comprises memory storing algorithm configuration data defining the invertible algorithm.

20.   A system comprising a transaction server, first and second clients, first apparatus for applying a perceptible watermark to the material and second apparatus for removing the watermark, the said first and second clients, first apparatus for applying a perceptible watermark to the material and second apparatus for removing the watermark being linked by one or more communications networks; the system being arranged to implement the method of claim 1.

21.   A system according to claim 20, wherein the said material is video material.

22.   A system according to claim 26, wherein the said material is audio/visual material.

23.   A system according to claim 26, wherein the said material is audio material.

24.   A system according to claim 20, wherein the said material is data material.

25.   A data processing apparatus comprising

an information material processing apparatus operable to receive signals representative of information material, and to adapt said signals to the effect of introducing a reversible modification to said information material in accordance with a modification key, said modification being arranged to provide a disturbing effect on the information material to a human recipient,

a data generation processor operable to generate data identifying said information material,

a recording apparatus operable to record said adapted signals and said identifying data on a recording/reproducing medium, and

a data processor operable to receive said identifying data and said modification key and to store said identifying data and data representative of said modification key data on a data carrier.

26.   An apparatus as claimed in Claim 25, wherein said recording/reproducing medium is a linear recording medium including capacity for ancillary data, and said identifying data is recorded in said capacity for recording ancillary data.

27.   An apparatus as claimed in claim 25, wherein said data carrier is a hand insertable carrier.

28.   An apparatus as claimed in Claim 27, wherein said data carrier is a smart card or the like.

29.   An apparatus as claimed in Claim 25, wherein said identifying data is a Unique Material Identifier or the like.

5   30.   An apparatus as claimed of Claim 25, said apparatus comprising

an information material server arranged to store signals representative of information material, and to retrieve selected signals representative of selected information material items, said information material processing apparatus being operable to adapt said selected signals, said data generation processor being operable

10   to generate said data identifying said selected information material signals.

31.   A camera comprising the apparatus according to Claim 25.

32.   An apparatus for receiving a data carrier having data stored by the apparatus

15   according to Claim 25, said apparatus comprising

a data reading processor operable to receive said data carrier via hand insertion by a user and to read the modification key and the identifying data, and

a communications processor operable to communicate said modification key and said identifying data to a data base processor.

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33.   An apparatus as claimed in Claim 32, wherein said communications processor is operable to communicate said modification key and said identifying data to said data base processor via a communications network.

25   34.   An apparatus as claimed in Claim 33, wherein said communications network is the Internet.

35.   An apparatus as claimed in Claim 32, wherein said communications processor is operable to receive data representative of sales conditions and price information and

30   to communicate said sales conditions and said price information with said modification key data and said identifying data to said data base processor.

36. A signal bearing the modification key and the identifying data generated by the apparatus according to Claim 32.

37. A signal ensemble comprising the adapted signals representing audio and/or video signals adapted by the apparatus as claimed in Claim 25, and the signal bearing the modification key and the identifying data generated by the apparatus according to Claims 32.

38. A method comprising the steps of:

applying, using a watermarking apparatus, a removable perceptible watermark to material, the watermark being removable using removal data created during application of the watermark and applying identifying data to the material to identify the watermarked material;

registering with a transaction server conditions for the removal of the watermark and identifying data identifying the watermarked material;

transferring the watermarked material to a watermark removal apparatus; and

identifying to the server the transferred material, and transferring the removal data to the removal apparatus to allow removal of the watermark if the transaction server indicates that predetermined conditions for removal are satisfied.

39. A method according to claim 38, wherein the said conditions are conditions of sale of the material.

40. A method according to claim 39 wherein the conditions of sale include paying for the material.

41. A method according to claim 38, comprising the step of using a first client linked to the transaction server by a communications network to register the said conditions.

42.   A method according to claim 41, comprising the step of using a second client linked to the transaction server by a communications network to comply with the said conditions.

43.   A method according to claim 38, comprising the steps of loading the removal data onto a data carrier and transferring the carrier to the removal apparatus when the said conditions are satisfied.

44.   A method according to claim 43, wherein the removal data is downloaded onto the data carrier from the transaction server via the communications network.

45.   A method according to claim 44, wherein the data carrier is a smart card.

46.   A system comprising a watermarking apparatus, a transaction server and a watermark removal apparatus arranged to carry out the method of claim 38.

47.   A server arranged to:

        a) receive and store data identifying watermarked material, data enabling removal of the watermarks from material and data setting predetermined conditions for the removal of watermarks; and

        b) receive identifying data identifying watermarked material form which a watermark is to be removed;

        c) monitor whether the predetermined conditions are satisfied; and

        d) if the conditions are satisfied, providing the removal data for transfer to apparatus for removal of the watermark.

48.   A server according to claim 47, wherein the said predetermined conditions are conditions of sale of the material.

49.   A server according to claim 48, arranged to receive and store financial data relating to the sellers of the watermarked material.

50.   A server according to claim 48, arranged to receive and store financial data relating to buyers of the watermarked material.

5   51.   A server according to claim 48, wherein the said conditions of sale include paying for the material.

52.   A server according to claim 51, wherein the server is arranged to monitor transfer of money from the buyer to the seller.

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53.   A server according to claim 52, which is linked by a communications network with a financial institution to monitor the said transfer of money.

54.   A server according to claim 47, wherein the removal data includes a template and a security key.

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55.   A server arranged to:

interact with a client so as to enable a user of the client to design a template of a watermark; and

20   output a watermarking algorithm, or data for configuring such an algorithm, and data for generating security keys for implementing the algorithm.

56.   A server according to claim 55, arranged to output the said algorithm or configuring data and the key generating data to a data carrier for transfer to the said

25   user.

57.   A server according to claim 56 , wherein the data carrier is a smart card.

58.   A data processing apparatus arranged to :

30   a) transfer, to a server via a communications network, data identifying watermarked material and a request for removal data enabling the removal of the watermark from the identified material; and

b) receive the removal data.

59.   Apparatus according to claim 58, comprising an interface for receiving a data carrier, the apparatus being arranged to transfer the removal data to the carrier when the carrier is received by the interface.   .

60.   A system according to claim 58, further comprising a store storing watermarked material, the apparatus being arranged to receive the said material from the store, and to remove the watermark using the said removal data.

61   A system according to claim 60, arranged to store the material from which the watermark has been removed in the said store.

62   Apparatus for removing a watermark from watermarked material, comprising:

a first port for receiving the said watermarked material; and

a second port for receiving watermark removal data.

63.   Apparatus according to claim 62, wherein the first port is arranged to receive a first data carrier on which the said material is recorded; and

the second port is arranged to receive a second data carrier on which the said removal data is recorded.

64.   Apparatus according to claim 63 wherein the second port is arranged to receive a smart card.

65.   Apparatus according to claim 63, wherein the first port is arranged to receive a tape record.

66.   A watermark removal system comprising apparatus any one of claims 62 to 65 and an apparatus or system according to claim 58.

67.   A signal comprising watermark removal data including a key and an algorithm or data for configuring an algorithm.

68.   A signal according to claim 67, further including a watermark template.

69.   A signal ensemble comprising a signal according to claim 66 and a separate signal including the watermarked material.

70.   A method comprising the steps of:

receiving, via a first channel, material which is watermarked with a watermark which is reversible; and

receiving, via a second channel, removal data which enables the removal of the watermark.

71.   A method according to claim 70, wherein the first and second channels follow different paths.

72.   A method according to claim 70, further comprising the step of removing the watermark using the removal data.

73.   A computer program product arranged to implement the method of claim 1 when run on a system comprising a transaction server, first and second clients, first apparatus for applying a perceptible watermark to the material and second apparatus for removing the watermark.

74.   A method of watermarking and transferring watermarked material in a system comprising a transaction server and at least first and second clients, the method comprising the steps of:

using the first client to (i) create a watermark, defined by (a) an invertible algorithm and (b) at least one security key associated with the algorithm and (ii) provide a material identifier;

using the said first client to associate the material identifier with the material and apply the watermark to the material;

and storing, in the transaction server, the said material identifier and data for inverting the algorithm including the said at least one key;

5   transferring the watermarked material to the second client;

deriving the said material identifier associated with the material;

transferring the identifier from the second client to the transaction server;

subject to predetermined conditions being satisfied, transferring from the transaction server to the second client watermark removal data associated with the said

10   material identifier, the removal data including at least one key and data defining an algorithm for removing the watermark in conjunction with the key; and

using the second client to remove the watermark using the said removal data.

75.   A method according to claim 74, wherein the watermarked material is

15   transferred to the second client via a communications channel.

76.   A method according to claim 74, comprising the step of storing in the transaction server metadata relating the said watermarked material, the metadata being referenced to the material by the said identifier.

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77.   A method according to claim 74, comprising storing on the transaction server financial rules relating to use of the material.

78.   A method according to claim 77, wherein the financial rules are referenced to

25   the material by the said identifier.

79.   A method according to claim 74, comprising storing on the transaction server business rules relating to use of the material.

30   80.   A method according to claim 74, comprising storing on the transaction server statistical data relating to transactions associated with the material.

81. A method according to claim 74, comprising creating at the transaction server files associated with respective items of material which users have been allowed to use by virtue of a business transaction.

82. A method according to claim 81, each file containing data relating to the rules of the business transaction.

83. A method according to claim 81, wherein each file contains metadata relating to the item of material.

84. A method according to claim 81, wherein each file contains the removal data.

85. A method according to claim 84 wherein the removal data is secured against unauthorized access thereto.

86. A method according to claim 81, wherein the transaction server transfers the said file to the second client.

87. A method according to claim 85, wherein the step of transferring removal data comprises transferring the said file to the second client.

88. A method according to claim 74, comprising the step of storing the watermarked material in a recording medium and transferring the watermarked material to the second client on the recording medium.

89. A method according to claim 74, wherein the first client downloads watermark creation software from the server to create a watermark off-line.

90. A method according to claim 74, wherein the first client interacts with the transaction server to create the watermark.

91.   A system comprising a transaction server and first and second clients, the
system being arranged to implement the method of claim 74.

92.   A method or system according to claim 4, wherein the said material is video
5   material.

93.   A method or system according to claim 74, wherein the said material is
audio/visual material.

10   94.   A method or system according to claim 74 wherein the said material is audio
material.

95.   A method or system according to claim 74, wherein the said material is data
material.

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96.   A suite of computer programs containing instructions which when run on a
system comprising a server and first and second clients configures the system to
operate according to the method of claim 74.